BOOK REVIEWS

LANCASTER, F. W. **Indexing and Abstracting in Theory and Practice.** 3rd ed. Champaign, IL: University of Illinois, Graduate School of Library and Information Science, 2003. 451 p. $57.50 plus shipping. ISBN: 0-87845-122-6.

This third edition of what has become a classic among textbooks in schools of library and information science (and related programs) has been thoroughly updated to reflect the evolving technological advancements in the field. Focusing on indexing of the subject matter of material, the beginning chapters review the literature and discuss various principles and practices such as ''exhaustivity or depth of indexing,'' ''specificity,'' ''checktags,'' ''pre- and post-coordinate indexes,'' and ''consistency and quality of indexing.'' Discussions on abstracting cover such concepts as the different types of abstracts, purpose of an abstract, structured versus narrative abstracts, informative versus indicative abstracts, subject slanting, modular abstracts, and writing and evaluating an abstract.

Various styles of indexing used in printed publications such as *Index Medicus*, the *Engineering Index*, and *Chemical Abstracts* are illustrated in the text; although the author is quick to note that printed tools are used much less today in favor of their online counterparts. In the online world, indexing has even greater importance in the effort to retrieve relevant data efficiently. Related concepts such as weighted indexing, linking of terms, and relational indicators are discussed as aids to precision. The idiosyncrasies of indexing special formats such as images and sounds and the Internet, as well as the use of computer-generated or automated indexing and abstracting, are also reviewed. The author admits that the Web has become so large and complex that it is beyond the scope of any single book to explain all of its components. He suggests the use of Web-based services such as The Extreme Web Searcher's Internet Handbook News and Updates <http://extremesearcher.com/news.html> or Search Engine Watch <http://searchenginewatch.com> to keep current with new developments.

Lancaster quotes several authors who see indexing of the Web becoming more impossible with time, but, at the same time, see that the need for automatic abstracts or summarizations continuing to grow in importance. With automation, the need for human intervention at the local level, be it Website design or local resources management, will also increase.

Part 2 of the work includes chapters with practice exercises, a summary of abstracting principles, sample subject modules, and an extensive list of references. The index has grown by over a hundred pages since the award-winning first edition in 1991, which won the Best Information Science Book Award in 1992 from the American Society for Information Science.

The work is primarily a teaching textbook that gives a good overview of the historic theory and principles behind indexing and abstracting and then discusses various applications, practices, and issues related to content analysis. Adequate representation of the material being described is the core challenge with indexing and abstracting. Another work that addresses this core issue is *Explorations in Indexing and Abstracting: Pointing, Virtue, and Power* by Brian C. O'Connor [1]. O'Connor defines ''pointing'' as the fundamental definition of indexing; ''virtue,'' the essence of a work, as equal to abstracting; and the two tools together as giving a person ''power'' to make meaningful use of the information (p. ix). Another related title, *Introduction to Indexing and Abstracting* by Donald B. Cleveland and Ana D. Cleveland [2], is more practical than the other two titles in that it provides many examples of what is being discussed and includes a section on ''Ninety-nine Web Resources for Indexers and Abstractors,'' with leads to useful tools such as indexing services, standards, indexing organizations, and search services. Google <http://www.google.com>, one of the listed search services, is a company working to answer Lancaster's challenge about the daunting task of indexing the Web. Under ''Our Philosophy'' on the Google Website, cofounder Larry Page states his far-reaching vision: ''The perfect search engine would understand exactly what you mean and give back exactly what you want.'' Many of the principles discussed in Lancaster's work—precision, specificity, and depth of indexing—are just as applicable and essential in today's online world as companies like Google seek to develop the ''perfect search engine.''

Each of the three books discusses the topic of indexing and abstracting with a different emphasis. Lancaster addresses more of the theory and basic principles; O'Connor looks at the topic from a technical viewpoint; while the Clevelands write with a practical slant giving useful examples and suggestions. The three works together provide very comprehensive coverage of the subject. Each would be useful to students in library or information science, those working in indexing and abstracting services, or persons seeking careers in the information and computer industries.

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HERSH, WILLIAM R. **Information Retrieval: A Health and Biomedical Perspective.** 2nd ed. New York, NY: Springer, 2003. (Health Informatics Series.) 517 p. $89.95. ISBN: 0-387-95522-4. (Also available as an electronic book: ISBN 0-585-47241-6.)♾

William Hersh, professor and chair of the Department of Medical Informatics and Clinical Epidemiology at Oregon Health & Science University (OHSU), is internationally recognized for his work in the medical informatics field, especially in the development and evaluation of information retrieval systems for clinicians. He has coauthored more than eighty papers, several of them with librarian colleagues at OHSU, and coauthored a chapter on information retrieval systems in a book on medical informatics published in 2001 [1], which provides a much abbreviated view of the topic in thirty-three pages.

In the seven years since the first edition of *Information Retrieval,* the information world has changed considerably, largely because of the Internet, a point the author notes in his preface by indicating that ''this edition is profoundly re-written and is essentially a new book'' (p. ix). Indeed the page count has increased by nearly 62%, although the 11 chapter headings provide a nearly identical framework, as do the appendixes. The author maintains a Website <http://www.irbook.org> to report on errata and new developments in the field. The site also includes the full text of chapter 1, the complete bibliography, and the index. The errata page dated June 2003 contains a considerable list of both substantial errata as well as typographical errors. The update pages reflect significant new developments chapter by chapter, many of which draw from updates to a course the author teaches. This resource will be very valuable if the author is committed to maintaining it and, in fact, is already a useful site that readers can bookmark and scan periodically for their professional reading.

The main goal of the book is ''to provide an understanding of the theory, implementation, and evaluation of information retrieval (IR) systems in health and biomedicine'' (p. ix). The 11 chapters are divided into three parts, which flow from basic definitions of information retrieval and an overview of health and biomedical information, to a description of the current ''state-of-the-art'' in information retrieval, to a discussion of the major research and development trends in building better systems. The four appendixes revolve around a sample database of documents to illustrate concepts such as inverted files. The book also includes an extensive list of about 1,050 references and a subject index.

Most health sciences librarians will be familiar with the basic concepts introduced in chapters 1 and 2, including an excellent overview of health and biomedical information as primary or secondary literature, the peer-review process, impact factors, evidence-based medicine, electronic publishing, and quality of health information on the Web. Chapter 3 contains a summary of system research and evaluation methodology that will be particularly valuable to librarians who evaluate information systems and resources with constrained budgets. It will also help as the profession develops its own knowledgebase of evidence-based librarianship. This summary sets the stage for chapter 7, in which the author reviews existing research, primarily in the clinical arena, on questions of system use, user satisfaction, and system impact, including MEDLINE impact studies conducted by librarians. One of the author's conclusions based on research to date is that ''although healthcare IR systems are widely distributed and commercially successful, their true impact on healthcare providers and patient care is unknown'' (p. 261).

Chapters 4 through 6 address the state of the art in content (databases, full-text, Websites, images), indexing (controlled vocabularies, Unified Medical Language System, metadata, word indexing, Web crawling), and retrieval (search processes for different types of resources, Web search engines, information filtering). Again, most of this will be familiar territory for health sciences librarians, as it forms the basis for much of the teaching done with users. Only a brief mention is made of the National Center for Biotechnology Information's genomic resources, reflecting the book's bias toward retrieval of health care textual information as opposed to retrieval of research data.

Research directions are the focus of the final four chapters. Some content of these chapters will stretch the knowledgebase of practicing health sciences librarians and be of more interest to library science and informatics researchers. It introduces specialized terminology and concepts relating to developments in lexical-statistical systems, which base indexing and retrieval on word stems in text (chapter 8), and linguistics systems, which base retrieval on natural language processing (chapter 9). Chapter 10, ''Augmenting Systems for Users,'' describes additional methods for improving the user interface, particularly across multiple resources including linking IR systems to the electronic medical record, and it has a section on digital libraries. The section on digital libraries is very brief and may raise some hackles by stating that ''probably the main function of libraries is to maintain collections of published literature'' (p. 387), but the author redeems himself later by observing, ''One concern about digital libraries is access to the professionals who have always aided users of physical libraries . . . the value of professional assistance to users cannot be denied'' (p. 389). Chapter 11 concludes the book with an introduction to the concept of information extraction, also known as text mining. The author focuses on extraction of content from the clinical narrative and briefly explores the use of information extraction techniques to facilitate scientific discovery.

A review [2] of the first edition noted several limitations, including

''the focus on medical as opposed to health sciences; the rather selective international coverage of general IR research . . . , the lack of information about medical IR systems in other countries; and the lack of coverage about issues in non-textual databases.'' This statement remains largely true in the second edition, although a wider focus would have added that many more pages to an already hefty tome.

Information Retrieval would be a useful addition to the shelves of academic libraries for both librarians and health professionals and students, if more depth of information is desired beyond ''how-to-search'' manuals. The chapters on system evaluation and research trends are particularly enlightening. Schools of library and information science and informatics programs should also consider this text a must for capturing the complexity of the intersection between information retrieval and medicine.

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Introduction to Reference Sources in the Health Sciences. Compiled and edited by Jo Anne Boorkman, Jeffrey T. Huber, and Fred W. Roper. 4th ed. New York, NY: Neal-Schuman Publishers, 2004. 389 p. Softcover. $75.00. ISBN: 1-55570-481-6.♾

''We have chosen those tools that librarians may use on a daily basis in reference work in the health sciences—those that may be considered foundation or basic works'' (Preface).

The fourth edition of this classic textbook and collection development guide comes nearly ten years after the publication of the third edition and has been extensively revised and enhanced to reflect not only new online resources, but the recent emphasis in the profession on consumer health and evidence-based medicine. It should be an essential reference guide available in all health sciences libraries and a key textbook for courses covering health sciences reference sources.

The book has three parts: ''The Reference Collection,'' ''Bibliographic Sources,'' and ''Information Sources.'' Part I on the organization and management of the reference collection covers issues related to building, maintaining, and assessing a reference collection, including licensing issues for online formats. Part II on bibliographic sources (monographs, periodicals, abstracting and indexing resources, etc.) and part III on information sources (terminology, drug information, consumer health, statistics, etc.) form the bulk of this work with thirteen chapters by various contributors, including the volume editors. For this edition, the audiovisual chapter in the third edition has been dropped, and a timely and excellent new chapter on consumer health sources has been added. Separate chapters in the third edition on abstracting and indexing (A&I) services and bibliographic databases have been combined into a single new chapter in this edition, ''Indexing, Abstracting, and Digital Database Resources.'' Although every previous edition has included electronic resources, the focus of this edition is on electronic resources that have become the principle method of providing excellent and timely reference services.

The authors have included the ''best resources for answering questions from health professionals, students, researchers, and consumers interested in health information'' and have ably described the resources and the context in which they are used. A real bonus is the book's readability. The book is not a simple listing of resources with annotations, but includes valuable context and discussion of issues that serve the purpose of the book extremely well. For example, librarians who infrequently deal with history of medicine questions and need a reminder of key sources will find a highly readable guide in McClure's chapter on history sources. Librarians who need a primer on medical statistics will find a wealth of resources with succinctly written contextual information in Rankin and Burgess's chapter on medical and health statistics. US sources and libraries are emphasized, but Canadian sources are also included. In chapter 14 covering grant sources, the editors acknowledge an unfortunate error in the first printing that excluded a footnote thanking Tom Flemming of McMaster University for supplying information about Canadian grant sources.

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The Medical Library Association Encyclopedic Guide to Searching and Finding Health Information on the Web. Edited by P. F. Anderson and Nancy J. Allee. New York, NY: Neal-Schuman Publishers, 2004. 440 p. $445.50 members, $495.00 nonmembers. ISBN: 1-55570-495-4.♾

An overwhelming amount of health information is available on the Internet and finding it can be frustrating and overwhelming. The trick to finding quality health information is knowing where and how to look for the needed information. *The Medical Library Association Encyclopedic Guide to Searching and Finding Health Information on the Web* has been created to assist information professionals and consumers in finding quality health information that is freely available on

the Internet. The three-volume set with an optional CD-ROM has also been created to help information professionals complete more efficient and comprehensive searches on health-related topics.

This book gathers the experience and expertise of health information professionals in one location. The three volumes contain more than 720 search strategies created and tested by ''librarian-searching professionals, health care experts or practitioners, computer experts with health expertise, patient experts and advocates'' (p. xviii). Whether the reader is a novice searcher needing help with every step of the searching process or a seasoned professional stumped by a reference question, this guide provides advice on how to tackle any health-related question.

The first volume, ''Search Strategies/Quick Reference Guide,'' focuses on how to search the Internet for health information. ''Search Strategies'' is an instruction manual on the skills necessary to build a successful search. Each section contains a narrative, a list of important Websites to get more information, and a list of ''recommended search terms.'' ''Health Information on the Web: What's Good and What's Good for You'' begins the volume, giving an overview of searching for health information on the Internet and covering such topics as evaluating health information, ethics, and privacy.

The next seven chapters cover the actual search process. ''Strategic Searching by Question'' and ''Strategic Searching by Term'' show how to create search strategies: beginning with formulating the question, following with identifying the key concepts and terms, and ending with creating a search strategy. ''Strategic Searching with Search Engines,'' ''Recognizing the Limitations of Search Engines,'' and ''Choosing a Search Engine to Match Your Question'' explore what the different types of search engines are, how they work, what tips and tricks for searching and limitations of the search engines are, how to find missing sites (404 errors), how to search the invisible Web, and how to choose the right search engine. ''Strategic Talking: Working with your Health Care Team'' discusses working with a health care professional to answer health questions. The ''Complete Step-by Step Search Procedure'' builds on all of the lessons of the previous chapters, puts the theory into practice, and guides the reader through the searching process. A form to assist in creating and implementing a search strategy is also included.

The final five chapters contain information on frequently asked questions. ''Answering Frequently Asked Questions: Diagnosis'' focuses on diagnosis, including questions to ask a doctor, health stories in the news, laboratory tests and results, medical procedures, and frequently used terms. ''Answering Frequently Asked Questions: Treatments'' shows how to find information on prescriptions, drugs, herbs, medical devices, remedies, and therapies. ''Basic Health Concepts: Terms, Images, and Starting Points'' helps identify the resources needed to choose the correct search terms. ''Tools and Support'' covers the tools for making health care decisions as well as where to find support. ''Statistics and Standards, Guidelines and Government Resources'' covers local, state, federal, and international governmental resources; health statistics; health guidelines; and standards of care.

''The Quick Reference Guide'' of volume 1 is broken up into five distinct parts. ''Selected Health and Medical Terms According to Concept'' includes terms a searcher should and should not use for a search strategy. ''General and Health Search Engines'' lists search engines. ''Geographic, Language and Location Codes'' covers the anatomy of a uniform resource locator (URL) and a comprehensive list of the codes to search by language, state, region, territory, and country. The volume ends with a chart containing the editors' favorite sources of consumer health information on the Web.

''The Quick Reference Guide'' section also includes ''Forms to Help You Search'': the Friar Form to help develop a search strategy, the SECT Form to help pick the right Internet search tool, and the WebEval Form to help evaluate the information from a search. This section also references some of the forms used in the ''Search Strategies'' section. A list of additional forms can be found in the ''List of Figures.''

Website evaluation is an important step in identifying quality information on the Internet. While the process of Website evaluation is covered in volume 1, it is scattered throughout and is not as easy to find as it should be. A very helpful Website evaluation form is included in the ''Forms to Help You Search'' section but is not listed in the ''Table of Contents'' or the ''List of Figures.'' ''Evaluate'' and ''evaluation'' are listed in the ''Cumulative Index,'' but the index is not exhaustive, and some information about evaluation is not indexed.

While volume 1 teaches how to create a search, as well as evaluate the results, the authors put the theory into practice in volumes 2 and 3 and create search strategies for hundreds of health topics. As in volume 1, each topic includes recommended search terms and important sites and some or all of the following information: issues related to a specific topic; special terms related to the topic; places to start a search; questions to ask when creating a search; a profile of the topic including the who, what, when, and where; common abbreviations; hotlines; Internet publications; professional organizations; and support and discussion groups.

Volume 2, ''Diseases and Disorders/Mental Health and Mental Disorders,'' covers specific diseases, illnesses, and conditions. ''Disease and Disorders'' covers ''nearly 300 specific topics in 32 major areas'' (p. xxvii) with some fairly complex information. For example, the major topic of cancer has information on more than twenty differences types of cancers—including cancers specific to women, digestive cancers, and head and neck

cancers—and has more than fifteen sections on cancer issues like alternative choices, biopsies, pain, and survival. Other major topics in this section are AIDS and HIV, dental and oral health, heart and circulatory diseases, and neurological and neuromuscular disorders. ''Mental Health and Mental Disorders'' begins with an overview of mental health and mental disorders and then covers ''150 specific topics in 23 major areas'' (p. xix): specific disorders such as anxiety, dementia, and addictions and related topics such as causes, etiology, prevention and risk, diagnosis, management, prognosis, recovery and survival, and persons and populations.

Volume 3, ''Health and Wellness/Life Stages and Reproduction/Cumulative Index,'' begins ''Health and Wellness,'' which includes more then 160 topics organized under 11 major areas. The ''Living with Disability'' area includes more than 30 topics, including specific disabilities such as hearing impairments, blood disorders, and back and spinal injury and wellness issues such as housing options, advocacy, and education. Other health and wellness topics include hospice and end-of-life care and multicultural health. ''Life Stages and Reproduction'' has 114 specific topics grouped under 11 general areas. Some of the topics covered in this section are newborn and postpartum health; children's, adolescents', adult men's, adult women's, and seniors' health; birth defects; and pregnancy problems and complications. The ''Cumulative Index'' for the entire *MLA Encyclopedic Guide* includes all of the major topics, related topics, and concepts. Each volume also has cross-references to other areas of the books.

Volumes 2 and 3 cover more than seventy-seven individual main subjects and a wide variety of related topics. The topics for these two volumes have been chosen from four sources: ''statistics from the United States government for death for all populations reported; statistics from the United States government for disabilities for all populations reported; top-reported chronic, acute and infectious disorders; [and] FAQs reported by major health search engines and health information services'' (p. xxi). A wide range of health issues is covered in these two volumes, but the editors could not cover all issues. The search strategies have been designed to be easily adapted to health topics not explicitly covered in these volumes.

The book can be purchased with a CD-ROM containing a hypertext markup language (HTML) version of all 3 volumes with links to the approximately 11,000 Websites listed in the ''Important Sites'' sections. The ''Table of Contents'' and the see also references link to the appropriate sections; however, the ''Cumulative Index'' only provides text page numbers and no links to the content. Each section is one long HTML file. For example, the thirteen different chapters of ''Search Strategies'' all appear in one file on the CD-ROM. The only way to find a chapter is to link to the section from the table of contents and scroll through the file or use the browser's find feature within the section. The CD-ROM does include a search engine that is available for some, but not all, of the files. Another criticism of the CD-ROM is that the forms are in-line tables in the files, so they are hard to print out.

A lot of books are available on searching the Web for health information, but none is as comprehensive as the *MLA Encyclopedic Guide.* The ''Search Strategies'' section of volume 1 is mainly targeted at consumers who want to learn how to search effectively for the quality health information that is freely available on the Internet. While information professionals may find some new tips and tricks, they should already have the techniques for search strategies up their sleeves. Information professionals who do not have a health sciences background will like some of the ''Important Sites'' links. All users will benefit from the ''Quick Reference Guide,'' with seven easy-to-browse guides to assist searchers. The real strength of this guide rests with volumes 2 and 3: not only do these volumes provide tested search strategies on various health topics and recommended Websites, they include background information, topic profiles, related issues, and frequently asked questions. The combination of all of this information in one place makes this guide stand out.

This three-volume set is not for the person who wants to find something that is only good enough. *The MLA Encyclopedic Guide to Searching and Finding Health Information on the Web* is for the searcher who wants a comprehensive search of the Internet for quality health information.

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